

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A mesostructured material comprising a mineral phase within which are dispersed particles of nanometric dimensions ~~comprising~~ wherein said dispersed particles comprise at least one metal oxide in the crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic form, wherein said element M is in solid solution within the crystalline lattice of said oxide.

2. (Previously Presented) A material according to claim 1, which is thermally stable.

3. (Currently Amended) A material according to claim 1, ~~wherein at least at a local level, it has one or more mesostructures~~ having at least one mesostructure selected from the group consisting of:

(a) mesoporous mesostructures with three-dimensional hexagonal P63/mmc symmetry, with two-dimensional hexagonal symmetry, with three-dimensional cubic Ia3d, Im3m ~~or~~ and Pn3m symmetry,

(b) ~~from~~ vesicular or lamellar type mesostructures, ~~or from~~ and

(c) vermicular type mesostructures.

4. (Currently Amended) A material according to claim 1, wherein said particles with nanometric dimensions are particles with a spherical or isotropic morphology, at least 50% of the population of which has a mean diameter in the range 1 to 10 nm, or highly anisotropic rod type particles, at least 50% of the population of which has a mean transverse diameter in the range 1 to 10 nm and a mean length that does not exceed 100 nm.

5. (Previously Presented) A material according to claim 1, wherein the metal oxide present within said particles with nanometric dimensions has a degree of crystallinity of 30% to 100% by volume.

6. (Currently Amended) A material according to claim 1, wherein the quantity of cations of element M in solid solution (~~or, if appropriate, of the totality of the solid solution doping agents~~) represents at least 0.2% of the total quantity of metallic cations present in the oxide.

7. (Currently Amended) A material according to claim 1, wherein said particles with nanometric dimensions are particles based on cerium oxide, and in that said element M is selected from the group consisting of rare earths other than cerium, transition metals that are capable of being integrated in the cationic form in solid solution into a cerium oxide, and alkaline-earth metals.

8. (Currently Amended) A material according to claim 1, wherein said particles with nanometric dimensions are particles based on zirconium oxide, and in that said element M is selected from the group consisting of rare earths, transition metals that are capable of being integrated in the cationic form in solid solution into a zirconium oxide, and alkaline-earth metals.

9. (Currently Amended) A material according to claim 1, wherein said particles with nanometric dimensions are particles based on titanium oxide, and said element M is selected from the group consisting of rare earths, transition metals that are capable of being integrated in the cationic form in solid solution into a titanium oxide, and alkaline-earth metals.

10. (Currently Amended) A material according to claim 1, wherein said particles with nanometric dimensions are particles based on an oxide of a rare earth other than cerium, and said element M is selected from the group consisting of rare earths other than the rare earth constituting said oxide, transition metals that are capable of being integrated in the cationic form in solid solution into a rare earth oxide, and alkaline-earth metals.

11. (Currently Amended) A material according to claim 1, wherein said mineral phase ~~is at least partially constituted by~~ further comprises silica.

12. (Currently Amended) A material according to claim 1, wherein the mineral phase ~~also comprises metallic cations of metal M and/or~~ wherein at least a portion of

metallic cations of metal M are in the form of clusters based on metal M dispersed within said mineral phase and/or on the surface of said mineral phase.

13. (Currently Amended) A material according to claim 1, wherein at least a portion of the particles with nanometric dimensions dispersed within the mineral binder phase is in contact with porous portions constituting the internal space of the material.

14. (Currently Amended) A material according to claim 1, wherein the (mineral binder phase/particles with nanometric dimensions) molar ratio is in the range 20:80 to 99.5: 0.5.

15. (Currently Amended) A material according to claim 1, ~~which comprises~~ further comprising crystallites based on the oxide, hydroxide, oxyhydroxide, carbonate or hydroxycarbonate of said element M.

16. (Currently Amended) ~~An ordered mesoporous or mesostructured A~~ material according to claim 1, ~~wherein said material~~ being an ordered mesoporous or mesostructured material ~~has~~ having a BET specific surface area in the range 750 to 2300 m² per cm³ of material.

17. (Currently Amended) A process for preparing a mesostructured material ~~according to claim 1~~ comprising a mineral phase within which are dispersed particles of nanometric dimensions wherein said dispersed particles comprise at least one

metal oxide in the crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic form, wherein said element M is in solid solution within the crystalline lattice of said oxide, which said process comprises the successive steps comprising:

- a) producing a mineral mesostructure integrating, within its walls, particles with nanometric dimensions comprising a metal oxide in its crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;
- b) introducing into the mesoporous structure obtained, a compound based on said element M, the total amount of element M introduced into the structure with respect to the total surface area developed by the mesostructure being less than 5 micromoles of cation per m² of surface; and
- c) subjecting the mesostructure produced to a temperature of at least 300°C and not higher than 1000°C.

18. (Currently Amended) A preparation process according to claim 17, ~~which wherein~~ step a) is implemented by carrying out comprises the following steps:

- a1) forming an initial medium comprising a templating agent, ~~namely comprising~~ a surfactant type amphiphilic compound which can form micelles in the reaction medium;
- a2) adding to the medium of step ~~1a)~~ a1) a colloidal dispersion of particles with nanometric dimensions based on a metal oxide in the crystalline state, wherein said

metal oxide is selected from the group consisting of cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;

a3) forming a mesostructured mineral phase, ~~usually at least partially, or even essentially constituted by~~ optionally comprising silica, ~~said mineral phase~~ by adding a mineral precursor to the medium; and

a4) eliminating the templating agent, in particular by heat treatment or by entrainment by a solvent.

19. (Currently Amended) A preparation process according to claim 17 ~~wherein~~ wherein step b) ~~is carried out by~~ comprises immersing the mesostructured material obtained at the end of step a) in a solution comprising the element M in a concentration in the range 0.1 to 1.5 ~~mol/l~~ mol/l, then filtering the medium obtained.

20. (Currently Amended) A preparation process according to claim 17 wherein step b) ~~is carried out by~~ comprises immersing the mesostructured material obtained at the end of step a) in an aqueous or hydro-alcoholic solution comprising cations of metal M in a concentration in the range 0.2 to 1.5 ~~mol/l~~ mol/l, then centrifuging the medium obtained at a rate of 2000 to 5000 rpm, for a period not exceeding 30 minutes.

21. (Currently Amended) A preparation process according to claim 17, ~~wherein, following the impregnation/heat treatment procedures of steps b) and c), it comprises~~ said process further comprising repeating one or more subsequent

~~impregnation/heat treatment cycles implementing of~~ steps of type b) and c) carried out on the solid obtained from the preceding cycle.

22. (Currently Amended) A mesostructured material of Claim 1, that can be obtained by the process of claim 17, which wherein said material is a heterogeneous acidic, basic or redox catalyst.

23. (Currently Amend) A mesostructured material of Claim 1, wherein the dispersed particles comprising comprise particles of cerium oxide integrating and at least one metallic element is manganese in solid solution within the walls of its mesostructure, as a catalyst for absorption of oxides of nitrogen, wherein said material is an absorption catalyst for oxides of nitrogen.

24. (Currently Amended) A material ~~obtained by a process according claim 1,~~ as comprising: (a) a mineral phase within which are dispersed particles of nanometric dimensions wherein said dispersed particles comprise at least one metal oxide in the crystalline state selected from the group consisting of a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said at least one metal oxide further comprising at least one metallic element M in the cationic form, wherein said element M is in solid solution within the crystalline lattice of said oxide, and (b) a catalytic species, wherein the mineral phase comprises a support for the catalytic species.

25. (Currently Amended) A catalyst obtained by supporting at least one catalytic species on a material according to claim 1.

26. (New) A material according to claim 1, wherein the mineral phase further comprises doping agents other than element M in solid solution, wherein the totality of the doping agents represents at least 0.2% of the total quantity of metallic cations present in the oxide.